

centage of the milk used, and on account of its price must necessarily be limited to the few. The vast majority of our infants and invalids must from necessity depend upon the ordinary market milk for their supply. It is absolutely essential that this grade of milk shall be so handled as to prevent it distributing tuberculosis. Clean milking, frequent inspection, the removal from the dairy herds of clinically tuberculous animals, rapid cooling and early delivery of the milk, are all essential, but none or all of them will make milk from a tuberculous cow, or milk drawn in a tuberculous environment, free from tuberculosis.

There is only one practical method of treating such milk so as to remove the danger of infection, and that is pasteurization under official supervision. Pasteurization should not be considered a "cure all." It should not displace frequent and careful supervision of dairy farms and methods, it should never excuse slovenly practices at the producing end. It cannot make dirty milk clean, nor bad milk good. All it can do is to make a dangerous milk safe.

It is not within your province to devise ways and means of controlling or eradicating bovine tuberculous, that is a problem belonging essentially to the veterinarian. It is up to you, however, to see that milk from cows not proven free from tuberculosis shall be made safe for your patients to use.

#### Literature Used:

Vol. 4, Part 2, Proceedings of Sixth International Congress on Tuberculosis.

Bulletin 41, Hygienic Laboratory, P. H. & M. H. S.

Vols. 4, 5, Research Laboratory, Dept. of Health, City of New York.

23, 24, 25, Annual Reports of the Bureau of Animal Industry.

Proceedings of the Sixth Annual Meeting, National Association for the Study and Prevention of Tuberculosis.

## THE PREVALENCE OF BOVINE TUBERCULOSIS.

By CHESTER L. ROADHOUSE, D. V. M.

The prevalence of tuberculosis in cattle shows a direct relation to the opportunity for infection as is the case with the disease in human beings, and is not due to conditions of climate, latitude, and altitude; consequently we find the disease in all countries of the world where there is activity in the cattle business.

Central Europe, Great Britain, and our eastern states, as well as certain localities in other states, show the highest percentage of this disease. On this continent, Mexico, some of the gulf states, New Mexico, Arizona, Nevada, Wyoming, and some of the northern mountainous counties in California, have shown very low percentage of tuberculosis.

There are other isolated sections in the United States where little or no tuberculosis is found; but it is safe to say that there are comparatively few large *dairies* in the United States that are entirely free from this disease.

It is said that tuberculosis does not exist on the Island of Guernsey, the original home of the well-

known Guernsey cattle, and this condition is the result of strict supervision to prevent the bringing in of diseased animals.

"The majority of the cattle tested were dairy cattle, and the tests were made under various conditions. By far the larger proportion of the tests were made on cattle that had been within a state for a year or more. In some cases, tests were made compulsory on all cows supplying milk to a city; in other cases, they were made when requested by owners, and in still others, when the presence of tuberculosis was suspected in certain herds. It is impossible to determine accurately the weight of all these factors; but considering the fact that while dairy cattle largely predominate, their average is reduced by a certain proportion of other cattle, and offsetting against this, the fact that the testing of herds under suspicion tends to raise the average somewhat, it seems reasonable to conclude from these tests that probably 10% of the dairy cattle in the country are affected with tuberculosis."

In the United States in 1908, there were 7,116,275 cattle slaughtered under Federal inspection. Of this number, 68,395, or 0.96 per cent., were found affected with tuberculosis. Even a larger proportion of the animals slaughtered at establishments without Federal inspection are tubercular, as one effect of a rigid inspection is to exercise care in buying animals so as to minimize condemnations. Also we must remember that the beef cattle are grown on the ranges very largely and consequently have much less opportunity for contracting the infection that we find so general in dairy animals.

To reach the real point of interest which I believe this subject has for us at this meeting, I have gotten together the available data concerning the prevalence of tuberculosis in dairy cattle in California, as shown by tuberculin tests. The testing has been confined almost exclusively to herds supplying market milk for distribution in cities.

While tuberculosis in animals is less important in the United States than in some other countries, it has progressed to an alarming extent in this country, and is undoubtedly on the increase. It spreads readily among the cattle that come in close contact with each other, as in dairy herds.

The practice of feeding dairy cattle sloppy feed in the stables, and not having each animal in the same stall each time, is a dangerous one if there are badly diseased animals in the herd.

With this data furnished, showing the large percentage of tuberculosis in cattle, we can realize the great importance of the work being done by the Medical Milk Commissions of the United States. A vast amount of credit is due these organizations

for supervising the production of a clean, wholesome and safe milk for the protection of the life and health of the infant, and of all who will use it.

To determine the prevalence of tuberculosis in the United States, we must depend largely upon the data furnished by the United States Department of Agriculture, and by the various state officials connected with veterinary sanitary work. Dr. Melvin, Chief of the Bureau of Animal Industry, reports the results of tuberculin tests in the United States as follows:

**Results of Tuberculin Tests of Cattle in the United States Made by Federal Officers from 1893 to 1908, With the Results of Post Mortem Examination of Such of the Animals As Were Slaughtered.**

States.	No. of Tested.	No. of Reacting.	Percentage Reacting.	No. of Reactors Slaughtered.	No. found Tuberculous on Post Mortem.	Percentage found Tuberculous on Post Mortem.
Arizona	49	16	32.65	16	16	100.
Alabama	20					
California	9,618	1,112	11.56	872	872	100.
Colorado	882	50	6.08	14	13	92.86
Connecticut	6,080	852	14.01	750	748	99.73
Delaware	7					
Dist. of Columbia	8	7	87.50	5	5	100.
Florida	1					
Georgia	49	19	38.78			
Idaho	10					
Illinois	7,120	790	11.09	619	597	96.45
Indiana	2,935	246	8.38	129	127	98.45
Iowa	4,020	778	19.35	239	220	92.05
Kansas	120	4	3.33	4	3	75.00
Kentucky	327	37	11.31	13	12	92.31
Maine	3,264	149	4.56	116	109	93.97
Maryland	58	8	13.79	6	6	100.
Massachusetts	86,223	11,853	13.75	10,760	10,638	99.34
Michigan	2,155	351	16.29	97	95	97.94
Minnesota	60,733	3,031	4.99	172	135	78.49
Mississippi	133	9	6.77			
Missouri	1,680	132	7.92	4	4	100.
Montana	62	25	40.33	2	1	50.
Nebraska	105	49	46.67	18	18	100.
New Hampshire	164	20	12.18	19	19	100.
New Jersey	3,293	828	25.14	584	579	99.15
New Mexico	196	1	.51	1	1	100.
New York	4,034	565	14.00	533	532	99.81
North Carolina	1,207	208	17.23	43	28	65.12
North Dakota	702	130	18.52	13	13	100.
Ohio	2,933	425	14.49	69	68	98.55
Oklahoma	385	4	1.04	2	2	100.
Oregon	1,466	351	23.94	274	266	97.05
Pennsylvania	90	25	27.77	7	7	100.
Rhode Island	653	125	19.14	104	104	100.
South Carolina	395	40	10.12	1	1	100.
Tennessee	88	7	7.95			
Texas	76					
Utah	120	21	17.50	12	12	100.
Vermont	162,570	10,628	6.54	8,248	8,166	99.
Virginia	899	158	17.58	101	98	97.03
Washington	2,779	455	16.37	10	8	80.
West Virginia	60	13	21.67	12	12	100.
Wisconsin	32,297	3,477	10.77	915	802	87.65
Wyoming	2					
Total	400,008	37,000	9.25	24,784	24,837	98.39

#### California Tuberculin Tests.

Location.	No. Animals tested.	No. Reacting.	Percentage Reacting.
Palo Alto	313	93	29.7
Berkeley	353	93	26.3
Petaluma	79	7	8.8
Withheld	196	110	56.1
Lakeville	10		
Walnut Creek	108	13	12.5
Knight's Landing	61	15	24.5
San Mateo	69	55	79.9
San Luis Obispo	8		
Dixon	268	68	21.6
Etna Mills	53		
Red Bluff	18		
Redwood City	124	90	72.5
San Francisco	23	18	78.2
Pasadena	1287	96	7.4

Calif. cattle tested by U. S. Dept. of Agriculture for			
Export	476	101	21.2
Stockton	98	60	61.2
Ukiah	63	42	66.6
Agnews	67	58	86.5
Napa	154	4	2.6
Hopland	26	1	3.8
Galt	12		
Miscellaneous tests	54	16	29.6
Total	2920	930	31.8

#### PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

##### Combined Meeting of Medical and Surgical Sections, Thursday, July 6th, 1911.

I—Address by Dr. Geo. W. Crile, Cleveland, Ohio.

II—Address by Dr. Harvey W. Cushing, Baltimore, Md.

Eye, Ear, Nose and Throat Section, Tuesday, July 25th, 1911.

I—Presentation of Cases. Harrington B. Graham. Discussed by Drs. McClenahan, Lucchetti, Blake, Welty.

II—Case Report. V. F. Lucchetti.

III—Report of Recent Italian Eye Literature. V. F. Lucchetti. Discussed by Drs. Horn, Lucchetti, Frederick.

IV—Report of Case. Cullen F. Welty.

#### SOCIETY REPORTS

##### CALIFORNIA ACADEMY OF MEDICINE.

The California Academy of Medicine held its regular meeting on Monday evening, July 24th, in the library of the County Medical Society. The scientific program was as follows:

I—Elements of Error in Statistics. Dr. W. S. Thorne. Discussed by Drs. Ophuls, Terry and Thorne.

II—A Case Report. Major P. M. Ashburn, U. S. Army. Discussed by Dr. Morrow.

III—Illustration of Lepa Cases. Dr. Howard Morrow.

Refreshments were served at the close of the program.

##### SHASTA COUNTY.

The Shasta County Medical Society met at the Dunsuir Hospital, Dunsuir, Cal., July 15, 1911.

There were present the following: Drs. R. T. Legge, president; E. J. Cornish, A. A. Milliken, L. J. E. Gougnet, C. A. Mueller, F. J. McNulty, J. P. Sandholdt, Charles Pius, J. T. Affleck and B. F. Saylor. Dr. J. A. Black and Dr. W. P. Willard of San Francisco were guests of the Society.

The morning was taken up with clinical cases. Dr. W. P. Willard of San Francisco demonstrated the use of the cystoscope for diagnosis of bladder conditions and ureteral catheterization in two cases of chronic cystitis.

Dr. R. T. Legge, of McCloud, administered a dose of Salvarsan as an illustration of his paper on "A Simple Technique for the Intravenous Administration of 605 With Indications and Contra-Indications."

Dr. L. J. E. Gougnet of Sisson, exhibited a case of conjunctivitis with plastic deposit occurring in a young girl who has had for several years a recurring pustular skin disease.

At noon the society repaired to the home of Dr. E. J. Cornish where a sumptuous luncheon had been prepared by Mrs. Cornish.

After a siesta the scientific program was taken up. Dr. J. A. Black of San Francisco gave a masterly dissertation on "Tonsils; with exhibition of specimens. Dr. W. P. Willard of San Francisco read a succinct and instructive paper on "prostatitis."